

Amendment to the Specification:

On page 1, before the first paragraph, please add the following paragraph:

BACKGROUND OF THE INVENTION

On page 3, between the first full paragraph and the second full paragraph, please insert the following paragraph:

SUMMARY OF THE INVENTION

On page 3, after the third full paragraph, please insert the following paragraphs:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 schematically illustrates a regenerative machine developed by J.F. Malone;

FIG. 2 is a PV diagram showing both an ideal Stirling cycle and the cycle performed by the Malone machine of FIG. 1;

FIG. 3 is a PV diagram showing a cycle in accordance with an embodiment of the invention;

FIG. 4 illustrates the basic configuration of a thermohydrodynamic force amplifier (THFA) in accordance with an embodiment of the invention combined with a hydraulic engine;

FIGS. 4a, 4b, and 4c illustrate schematically the three working strokes that are allocated to the corresponding section in the PV diagram in accordance with an embodiment of the invention representing respectively the pressurized fluid flow, the motionless pressurized fluid, and the fluid motion at low pressure;

FIG. 5 illustrates a PV diagram resulting from a THFA process in accordance with an embodiment of the invention;

FIG. 6 illustrates an indicator diagram of a further embodiment of a THFA process in which the shut-off properties of the hydraulic valve and of the hydraulic engine are combined;

FIG. 7 schematically illustrates a further embodiment of a THFA process in which the heater and the cooler are integrated into the fluid circuit only during the working cycle portions in which their respective functions are needed, including the corresponding necessary bypass lines with shut-off valves and their timing in the PV diagram;

FIG. 8 illustrates an embodiment of a THFA machine in accordance with the invention with linear force decoupling and linear conformator;

FIGS. 9a, 9b, and 9c illustrate an embodiment of a THFA machine with the corresponding working steps during the three respective working phases of the driving THFA machine and the driven THFA refrigerator heat pump; and

FIG. 10 schematically illustrates a further embodiment of the invention in which the THFA refrigerator heat pump makes use of the basic principle of the known Vuilleumier refrigerator heat pump operating according to the Stirling principle, adapting it to the special cycle of the THFA machine.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS